

1653



1600

ENTERED

RAW SEQUENCE LISTING

DATE: 11/06/2002 P.6

PATENT APPLICATION: US/09/693,205A

TIME: 14:46:21

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT

Output Set: N:\CRF4\11062002\I693205A.raw

4 <110> APPLICANT: Hudson, Thomas J.
 5 Engert, James C.
 6 Richter, Andrea
 8 <120> TITLE OF INVENTION: IDENTIFICATION OF ARSACS MUTATIONS AND
 9 METHODS OF USE THEREFOR
 12 <130> FILE REFERENCE: 2825.1021-003
 14 <140> CURRENT APPLICATION NUMBER: US 09/693,205A
 15 <141> CURRENT FILING DATE: 2000-10-20
 17 <150> PRIOR APPLICATION NUMBER: US 60/160,588
 18 <151> PRIOR FILING DATE: 1999-10-20
 20 <160> NUMBER OF SEQ ID NOS: 73
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 12793
 26 <212> TYPE: DNA
 27 <213> ORGANISM: Homo sapiens
 29 <400> SEQUENCE: 1
 30 atgatttaca ggaagaccat gtactcagct gcagcttcta aatccagaac gatttgcacg 60
 31 tcttatcaag gaagtaatga atacattctg gcctggcaga gaattgattg ttcaatggta 120
 32 tccatttgat gaaaacagaa atcacccatc tgtttcatgg ctttaagatgg tttggaaaaa 180
 33 tctttatata catttttcag aggatttgac tttatttgat gagatgccac ttatccccag 240
 34 aactatacta gaggaaggtc agacatgtgt ggaactcatt agactcagga ttccatcggt 300
 35 agtcatttta gacgatgaat ctgaagcaca gcttccagaa tttttagcag acattgtaca 360
 36 aaaacttgga gggtttgtcc ttaaaaaatt agatgcatct atacaacatc cgcttattaa 420
 37 aaaatatatt cattcaccat taccaagtgc tgttttgagc ataatggaga agatgccatt 480
 38 gcagaaattg tgtaatcaaa taacttcgct acttccaaca cacaaagatg ccctgaggaa 540
 39 gttcttggct agtttaaccg atagcagtga gaaagagaaa agaattattc aagaattggc 600
 40 aatattcaag cgcattaacc attcttctga tcagggaatt tctctttata caaaattgaa 660
 41 aggttgtaaa gtcttacacc atactgccaa actcccagca gatctgcgac tttctatttc 720
 42 agtaatagac agtagtgatg aagctactat tctgtctggc aacatggttg aaatagaaca 780
 43 gttaaagacc actagctgct taaagcttgt tttaaaagat attgaaaatg cattttattc 840
 44 acatgaagag gtaacacagc ttatgttatg ggtccttgag aatctatctt ctcttaaaaa 900
 45 tgagaatcca aatgtgcttg agtggttaac accattaaaa ttcatccaga tatcacagga 960
 46 acagatggta tcagctggtg aactctttga ccctgatata gaagtactaa aggatctctt 1020
 47 ttgtaatgaa gaaggaacct atttcccacc ctcaagttttt acctcaccag atattcttca 1080
 48 ctcccttaaga cagattggtt taaaaaacga agccagctctc aaagaaaagg atgttggtgca 1140
 49 agtggcaaaa aaaattgaag ccttacaggt cgggtgcttg cctgatcaag atgttcttct 1200
 50 gaagaaagcc aaaacctctt tactggtttt aaataagaat cacacactgt tgcaatcatc 1260
 51 tgaaggaaag atgacattga agaaaataaa atgggttcca gcctgcaagg aaaggcctcc 1320
 52 aaattatcca ggctcttttg tctggaaagg agatctctgt aatctctgtg caccaccaga 1380
 53 tatgtgtgat gtaggccatg caattctcat tggctcctca ctctctcttg ttgaaagtat 1440
 54 ccatgtaaac ctggaaaaag cattagggat cttcacaaaa cctagcctta gtgctgtctt 1500
 55 aaaacacttt aaaattggtt ttgattggta ttcttcaaaa accttttagt atgaagacta 1560

RECEIVED

NOV 18 2002

TECH CENTER 1600/2000

RAW SEQUENCE LISTING

DATE: 11/06/2002

PATENT APPLICATION: US/09/693,205A

TIME: 14:46:21

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT

Output Set: N:\CRF4\11062002\I693205A.raw

```

56 ctatcaattc cagcatatTT tgcttgagat ttacggattc atgcatgac atctaaatga 1620
57 agggaaagat tcttttagag ccttaaaatt tccatgggtt tggactggca aaaagttttg 1680
58 tccacttgcc caggctgtga ttaaaccaat ccatgatctt gaccttcagc cttatttgca 1740
59 taatgtacct aaaaccatgg caaaattcca ccaactatTT aaggctctgtg gttcaataga 1800
60 ggagttgaca tcagatcata tttccatggt tattcagaag atatatctca aaagtgacca 1860
61 agatctcagt gaacaagaaa gcaaacaaaa tcttcatctt atgttgaata ttatcagatg 1920
62 gctgtatagc aatcagattc cagcaagccc caacacacca gttcctatac atcatagcaa 1980
63 aaatccttct aaacttatca tgaagccaat tcacgaatgc tgttattgtg acattaaagt 2040
64 tgatgacctt aatgacttac ttgaagattc tgtggaacca atcattttgg tgcagttaga 2100
65 catacccatg aaaactgcag aatggctaaa agttccatgc cttagtacaa gactgataaa 2160
66 tctgaaaac atgggatttg agcagtcagg acaaagagag ccacttactg taagaattaa 2220
67 aaatattctg gaagaatacc cttcagtgtc agatattttt aaagaactac ttcaaacgc 2280
68 tgatgatgca aatgcaacag aatgcagttt cttgattgat atgagaagaa atatggacat 2340
69 aagagagaat ctcctagacc cagggatggc agcttgatc ggacctgctt tgtggctatt 2400
70 caacaattct caattctcag attcagattt tgtgaacata actagggttag gagaatcttt 2460
71 aaaaagggga gaagttgaca aagttggaaa atttggctt ggatttaatt ctgtgtacca 2520
72 tatcactgac attcccatca ttatgagtcg ggaattcatg ataatgttcg atccaaacat 2580
73 aaatcatatc agtaaacaca ttaaagacaa atccaatcct gggatcaaaa ttaattggag 2640
74 taaacaacag aaaagactta gaaaatttcc taatcagttc aaaccattta tagatgtatt 2700
75 tggctgtcag ttacctttga ctgtagaagc accttacagc tataatggaa cccttttccg 2760
76 actgtccttt agaactcaac aggaagcaaa agtgagtga gttagtagta cgtgctacaa 2820
77 tacagcagat atttattctc ttgtggatga atttagtctc tgtggacaca ggcttatcat 2880
78 tttcactcag agtgtaaagt caatgtattt gaagtacttg aaaattgagg aaaccaaccc 2940
79 cagtttagca caagatacag taataattaa aaaaaaatcc tgctcttcca aagcattgaa 3000
80 cacacctgtc ttaagtgttt taaaagaggc tgctaagctc atgaagactt gcagcagcag 3060
81 taataaaaag cttcccagtg atgaacaaaa gtcactcttg attcttcaga tcacagtgga 3120
82 agaatttcac catgtgttca gaaggattgc tgatttacag tgcaccttt ttagagggtc 3180
83 agatgatgac ccagctgtc tctttgaaat ggctaagtct ggccaatcaa aaaagccatc 3240
84 agatgagttg tcacagaaaa cagtagagtg taccacgtgg cttctgtgta cttgcatgga 3300
85 cacaggagag gctctgaagt tttccctgag tgagagtgga agaagactag gactggttcc 3360
86 atgtggggca gtaggagttc agctgtcaga aatccaggac cagaagtgga cagtgaacc 3420
87 acacattgga gaggtgtttt gctatttacc tttacgaata aaaacaggct tgccagttca 3480
88 tatcaatggg tgctttgctg ttacatcaaa taggaaagaa atctggaaaa cagatacaaa 3540
89 aggacgatgg aataccacgt tcatgagaca tgttattgtg aaagcttact tacagggtact 3600
90 gagtgtctta cgggacctgg ccactagtgg ggagctaag gattatactt actatgcagt 3660
91 atggcccgat cctgatttag ttcagatgga tttttctgta atttgccaa gattttatga 3720
92 agatatagct catggaaaag ggaaagaact gaccaaagtc ttctctgatg gatctacttg 3780
93 ggtttccatg aagaacgtaa gatttctaga tgactctata cttaaagaa gagatgttg 3840
94 ttcagcagcc ttcaagatat ttttgaaata cctcaagaag actgggtcca aaaacctttg 3900
95 tgctgttgaa cttccttctt cggtaaaatt aggatttgaa gaagctggct gcaaacagat 3960
96 actacttgaa aacacatttt cagagaaaca gtttttttct gaagtgtttt ttccaaatat 4020
97 tcaagaaatt gaagcagaac ttagagatcc tttaatgac tttgttctaa atgaaaaagt 4080
98 tgatgagttc tcgggagttc ttogtgttac tccatgtatt ccttgttctt tggaggggca 4140
99 tcttttggtt ttgccatcaa gattgatcca cccgaagga cgagttgcaa agttatttga 4200
100 tattaagat gggagattcc cttatggttc tactcaggat tatctcaatc ctattatttt 4260
101 gattaaacta gttcagttag gtatggcaaa agatgatatt ttatgggatg atatgctaga 4320
102 acgtgcagtg tcagtagctg aaattaataa aagtgatcat gttgctgcat gcctaagaag 4380
103 tagtatctta ttgagtctta tcgatgagaa actaaaaata agggatccta gagcaaagga 4440
104 ttttctgca aaatatcaaa caatccgctt ccttccattt ctgacaaaac cagcaggttt 4500

```

RAW SEQUENCE LISTING

DATE: 11/06/2002

PATENT APPLICATION: US/09/693,205A

TIME: 14:46:21

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT

Output Set: N:\CRF4\11062002\I693205A.raw

```

105 ttcttttgac tggaaaggca acagtttttaa gcctgaaacc atgtttgcag caactgacct 4560
106 ttatacagct gaacatcaag atatatgtttg tctttttgcaa ccaattctaa atgaaaattc 4620
107 ccattctttt agagggtgtg gttcagtgtc attggctgtt aaagagtttt tgggattact 4680
108 caagaagcca acagttgatc tggttataaaa ccaattgaaa gaagtagcaa aatcagttga 4740
109 tgatggaatt acactgtacc aggagaatat caccaatgct tgctacaaat accttcatga 4800
110 agccttgatg caaaatgaaa tcactaagat gtcaattatt gataagttaa aaccttttag 4860
111 cttcattcta gttgagaatg catatgttga ctcagaaaag gtttcttttc atttaaattt 4920
112 tgaggcggca ccataccttt atcagttgcc taataagtat aaaaataatt tccgcgaact 4980
113 ttttgaaaacc gtgggtgtga ggcagtcagt cactgttgaa gattttgtct ttgttttgga 5040
114 atctattgat caagaaagag gaacaaagca aataacagaa gagaattttc agctttgccg 5100
115 acgaataatc agtgaaggaa tatggagtct cattagagaa aagaaacaag aattttgtga 5160
116 gaaaaattat ggcaagatat tattgccaga tactaatctt atgcttctcc ctgctaaatc 5220
117 gttatgctac aatgattgcc cttggataaa agtaaaggat accactgtaa aatattgtca 5280
118 tgctgacata cccagggaag tagcagtaaa actaggagca gtcccaaagc gacacaaagc 5340
119 cttagaaga tatgcatcca atgtctgttt tacaacactt ggcacagaat ttgggcagaa 5400
120 agaaaaattg accagcagaa ttaagagcat ccttaatgca tatccttctg aaaaggaaat 5460
121 gttgaaagag cttcttcaaa atgctgatga tgcaaaggcg acagaaatct gttttgtgtt 5520
122 tgatcctaga cagcatccag ttgatagaat atttgatgat aagtgggccc cattgcaagg 5580
123 gccagcactt tgtgtgtaca acaaccagcc atttacagaa gatgatgtta gaggaattca 5640
124 gaatcttgga aaaggcacga aagagggaaa tccttataaa actggacagt atggaatagg 5700
125 attcaattct gtgtatcata tcacagactg cccatctttt atttctggca atgacatcct 5760
126 gtgtattttt gatcctcatg ccagatatgc accaggggcc acatccatta gtcccggacg 5820
127 catgtttaga gatttggatg cagatttttag gacacagttc tcagatgttc tggatcttta 5880
128 tctgggaacc catttttaac tggataattg cacaatgttc agatttctc ttcgtaattg 5940
129 agaaatggca aaagtctcgg aaatttcgtc tgttccagca tcagacagaa tgggtccagaa 6000
130 tcttttggaac aaactgcgct cagatggggc agaacttcta atgtttctta atcacatgga 6060
131 aaaaatttct atttgtgaaa tagataagag tactggagct ctaaatgtgc tgtattcagt 6120
132 aaagggcaaa atcacagatg gagacagatt gaaaaggaaa caatttcatg catctgtaat 6180
133 tgatagtgtt actaaaaaga ggcagctcaa agacatacca gttcaacaaa taacctatac 6240
134 tatggatact gaggactctg aaggaaatct tactacgtgg ctaatttgta atagatcagg 6300
135 cttttcaagt atggagaaaag tatctaaaag tgtcatatca gtcacaaga accaagatat 6360
136 tactcttttc ccacgtggtg gagtagctgc ctgcattact cacaactata aaaaacccca 6420
137 tagggccttc tgttttttgc ctctttcttt ggagactggg ctgccatttc atgtgaatgg 6480
138 ccactttgca ctggattcag ccagaaggaa cctgtggcgt gatgataatg gagttggtgt 6540
139 tcgaagtgac tggaaataaca gtttaatgac agcattaata gctcctgcat atgttgaatt 6600 ←
140 gctaatacag ttaaaaaaac ggtatttccc tggttctgat ccaacattat cagtgttaca 6660
141 gaacaccctt attcatgttg taaaggacac tttaaagaag tttttatcgt ttttcccagt 6720
142 taaccgtctt gatctacagc cagattttata ttgtctagtg aaagcacttt acaattgcat 6780
143 tcacgaagac atgaaacgtc ttttacctgt tgtgcgggct ccaaattatt atggctctga 6840
144 cttgcaactc gcagttataa ttacttggat caatatgtct acttctaata aaactagacc 6900
145 attttttgac aattttactac aggatgaatt acaacacctt aaaaatgcag attataatat 6960
146 caccacacgc aaaacagtag cagagaatgt ctataggctg aaacatctcc ttttagaaat 7020
147 tgggttcaac ttggtttata actgtgatga aactgctaact ctttaccact gtcttataga 7080
148 tgcagatatt cctgttagtt atgtgacccc tgctgatata agatcttttt taatgacatt 7140
149 ttcctctcct gacactaatt gccatattgg gaagctgcct tgtcgtctgc agcagactaa 7200
150 tctaaaactt tttcatagtt taaaactttt agttgattat tgttttaaag atgcagaaga 7260
151 aaatgagatt gaagttgagg gattgcccct tctcatcaca ctggacagtg ttttgcaaac 7320
152 ttttgatgca aaacgaccca agtttctaac aacatatcat gaattgattc catcccgcaa 7380
153 agacttgttt atgaatacat tatatttgaa atatagtaat attttattga actgtaaagt 7440

```

RAW SEQUENCE LISTING

DATE: 11/06/2002

PATENT APPLICATION: US/09/693,205A

TIME: 14:46:21

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT

Output Set: N:\CRF4\11062002\I693205A.raw

```

154 tgcaaaagtg tttgacattt ccagctttgc tgatttgta tcctctgtgt tgcctcgaga 7500
155 atataagacc aaaagttgca caaagtggaa agacaatttt gcaagtgagt cttggcttaa 7560
156 gaatgcatgg cattttatta gtgaatctgt aagtgtgaaa gaagatcagg aagaaacaaa 7620
157 accaacattt gacattgttg ttgatactct aaaagactgg gcattgcttc caggaacaaa 7680
158 gtttactgtt tcagccaacc agcttgtggg tcctgaagga gatgttctgc ttctctcag 7740
159 ccttatgcac attgcagttt ttccaaatgc ccagagtgat aaagtttttc atgctctaatt 7800
160 gaaagccggc tgtattcagc ttgctttgaa caaaatctgt tccaaagaca gtgcatttg 7860
161 tcctttgttg tcatgtcaca cagcaaatat agagagcccc acaagcatct tgaaggctct 7920
162 acattatatg gtccaaaactt caacatttag agcagaaaaa ttagtagaaa atgattttga 7980
163 ggcacttttg atgtatttca actgcaattt gaatcatttg atgtcccaag atgatataaa 8040
164 aattctaaag tcacttccgt gctataaatc catcagtggc cgctatgtaa gcattggaaa 8100
165 atttggaaca tgctacgtac ttacaaaaag tatcccttca gctgaagtgg agaaatggac 8160
166 acaatcatca tcatctgcat ttcttgaaga aaaaatacac ttaaaagaac tatatgaggt 8220
167 gattggttgt gtacctgtag atgatcttga ggtatatttg aaacacctct taccaaaaat 8280
168 tgaaaatctc tcttatgatg caaaattaga gcacttgatc taccttaaga atagattatc 8340
169 aagtgtctgag gaattatcag agattaagga acaacttttt gaaaaactgg aaagtttatt 8400
170 gataatccat gatgctaaca gtagactaaa gcaagcaaaag cttttctatg atagaactgt 8460
171 gagagttttt gaagttatgc ttcttgaaaa attgtttatt cctaattgatt tctttaagaa 8520
172 attggaacaa cttataaaac ccaaaaatca tgttacattt atgacatcct ggggtggaatt 8580
173 cttaagaaat attggactaa aatacatact ttctcagcag cagttgttac agtttgctaa 8640
174 ggaaatcagt gtgagggcta atacagaaaa ctgggtccaa gaaacattgc aaaatacagt 8700
175 tgatatcctt ctgcatcata tattccaaga acgaatggat ttgttatctg gaaattttct 8760
176 gaaagaacta tctttaatac cattcttatg tcctgagcgg gcccccgagg aattcattag 8820
177 atttcatcct caatatcaag aggtaaatgg aacacttcct cttataaagt tcaatggagc 8880
178 acaggtaaat ccaaaattca agcaatgtga tgtactccag ctgttatgga catcctgccc 8940
179 tattcttcca gagaaaagcta cacccttaag cattaaagaa caagaaggta gtgaccttgg 9000
180 tccacaagaa cagcttgaac aagtttttaa tatgtctaat gttaacctgg atcctcctct 9060
181 tgataaggta atcaataact gcagaaacat atgcaacata acgacgttgg atgaagaaat 9120
182 ggtaaaaact agagcaaaaag tcttaaggag catatatgaa ttctcagtg cagaaaaaag 9180
183 ggaatttcgt tttcagttgc gaggggttgc ttttgtgatg gtagaagatg gttggaaact 9240
184 tctgaagcct gaggaggtag tcataaacct agaatatgaa tctgatttta aaccttattt 9300
185 gtacaagcta cttttagaac ttggcacatt tcaccagttg ttcaaacact taggtactga 9360
186 agatattatt tcaactaagc aatatgttga agtgttgagc cgcataattt aaaattctga 9420
187 gggcaaacaa ttagatccta atgaaatgcg tacagttaag agagtagttt ctgggtctgt 9480
188 caggagtcta cagaatgatt cagtcaaggg gaggagtgat ctcgagaatg tacgagacct 9540
189 tgcgctttac ctcccaagcc aggatggtag attggtaaaag tcaagcatct tagtgtttga 9600
190 cgatgcgcca cattataaaa gtagaatcca ggggaatatt ggtgtgcaa tggtagttga 9660
191 tctcagccag tgctacttag ggaaagacca tggatttcac actaagttga taatgctctt 9720
192 tcctcaaaaa cttagacctc gattattgag cagtatactt gaagaacaat tagatgaaga 9780
193 gactcccaaa gtttgtcagt ttggagcgtt gtgttctctt caaggaagat tgcagttact 9840
194 cttgtcttct gaacagttca ttacaggat gattagaatt atgaagcatg aaaatgataa 9900
195 tgcttttctg gccaatgaag aaaaagccat aagactttgc aaagccctaa gagaaggatt 9960
196 gaaagcatcc tgccttgaaa agcttcaaac aacattaaga gttaaagggt ttaatcctat 10020
197 tccccacagc agaagtgaac cttttgcttt tttgaagcga tttggtaatg cagtcactct 10080
198 gctctacatt caacattcag acagtaaaga cattaatctc ctggttagcac tggcaatgac 10140
199 tcttaaatca gcaactgaca atttgatttc tgacacttca tatttaattg ctatgctagg 10200
200 atgcaatgat atttacagga ttggtgagaa acttgacagt ttaggagtga aatatgactc 10260
201 ttcggagcca tcaaaactgg aacttccaat gcctggcaca ccaattcctg ctgaaattca 10320
202 ttacactctg cttatggacc caatgaatgt tttttaccgc ggagaatatg ttgggtacct 10380

```

RAW SEQUENCE LISTING

DATE: 11/06/2002

PATENT APPLICATION: US/09/693,205A

TIME: 14:46:21

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT

Output Set: N:\CRF4\11062002\I693205A.raw

```

203 tgttgatgct gaaggtggtg atatctatgg atcataccag ccaacataca catatgcaat 10440
204 tattgtacaa gaagttgaaa gagaagatgc tgacaattct agttttctag gaaagatata 10500
205 tcagatagat attggttata gtgaatataa aatagttagc tctcttgatc tgtataagtt 10560
206 ttcaagacct gaggaagct ctcaaagcag ggacagtgc ctttctacac caaccagccc 10620
207 cactgagttc ctaccccctg gcctgagaag cattcctcct cttttctctg gtagagagag 10680
208 ccacaagact tcttccaaac atcagtcctc caaaaagctt aagggttaatt ctttaccaga 10740
209 aatcttaaaa gaagtgcacat ctgtggtgga gcaagcatgg aagcttccag aatcggaacg 10800
210 aaaaaagatt attaggcggg tgatattgaa atggcatcct gacaaaaatc cagagaacca 10860
211 tgacattgcc aatgaagttt ttaaaccattt gcagaatgaa atcaacagat tagaaaaaca 10920
212 ggcttttcta gatcaaaatg cagacagggc ctccagacga acattttcaa cctcagcatc 10980
213 ccgatttcag tcagacaaaat actcatttca gagattctat acttcatgga atcaagaagc 11040
214 aacgagccat aaatctgaaa gacagcaaca gaacaaagaa aaatgcccc cttcagccgg 11100
215 acagacttac tctcaaaggt tctttgttcc tcccactttc aagtcggttg gcaatccagt 11160
216 ggaagcacgc agatggctaa gacaagccag agcaaacttc tcagctgcca ggaatgacct 11220
217 tcataaaaat gccaatgagt ggggtgtgct taaatgttac ctttctacca agttagcttt 11280
218 gattgcagct gactatgctg tgaggggaaa gtctgataaa gatgtaaaac caactgcact 11340
219 tgctcagaaa atagaggaat atagtcagca acttgaagga ctgacaaatg atgttcacac 11400
220 attggaagct tatggtgtag acagttttaa aacaagatac cctgatttgc ttccctttcc 11460
221 tcagatccca aatgacaggt tcacttctga gggtgtatg aggggtgatg aatgtactgc 11520
222 ctgtatcata ataaaacttg aaaattttat gcaacaaaaa gtgtgaagat atttaacgaa 11580
223 aaaaaaggta gatcttgaat gtgtttagc acgaataaat tgctgtactt cattaagctt 11640
224 cattgccaat tagctaggaa ttgttaagca cattgcagat tgttcttgga gaattctgga 11700
225 gttgttatga acatgaatac caacggaaaa ccttaactga atctaaaaga aaactatttt 11760
226 gaagatggtg gtgagctgca aaatagctgg atggatttga atgattggga tgatacatca 11820
227 ttgaactgca ctttatataa ccaaagctta gcagtttgtt agataagagt ctatgtatgt 11880
228 ctctggttag gatgaagtta attttatgtt ttaaacatgg tatttttgaa ggagctaattg 11940
229 aaacactgga catataattg gtttaaacad aaggggaatt aagtccttgt agtctgtcat 12000
230 ttttttaagt ggatcctctt ggatgcgtta ttttctcatc agctggctct gatcatgaat 12060
231 ttgttgtaat tttatgttgt actcagtgc ttaagaaat ggtagagtat tttaatccta 12120
232 ttacttgact aagagtgtga aggtagtact ttttagagtg cactgagtgc actttacatc 12180
233 tttattttaa ttttttttta acatcttatg tttacaggct tcctgtttga tgaagatagc 12240
234 aacggaaaac tcaaaatggt ggcagttctt attaccagtt gttagtattg tttctggaaa 12300
235 ctgcttgcca agacaacatt tattaactgt tagaacactt gctttatgtt tgtgtgtaca 12360
236 tattttccac aaatgttata atttatatag tgtggttgaa caggatgcaa tcttttgttg 12420
237 tctaaagggt ctgcagttaa aaaaaaaaca accttttctt tcaatatggc atgtagtgga 12480
238 gtttttttaa ctttaaaaac atcaaaaatt gttaaaatca ttgtgttatc tagtagttta 12540
239 taattatcgg cttatatattt cccatgaatg atcagaactg acatttaatt catgtttgtc 12600
240 tcgccatgct tctttacttt aacatatatt ttttgagaa tgtaaaagg aatgataatt 12660
241 agtttatata agtgtactgg ctgtaaatga tgctaaatat actttatgca attaagggtc 12720
242 tacagaacat gttgaaactt tttttacttt tattgggaat aaggaatgtt tgcacctcca 12780
243 cattttattg ctt 12793
245 <210> SEQ ID NO: 2
246 <211> LENGTH: 3829
247 <212> TYPE: PRT
248 <213> ORGANISM: Homo sapiens
250 <400> SEQUENCE: 2
251 Met Asn Thr Phe Trp Pro Gly Arg Glu Leu Ile Val Gln Trp Tyr Pro
252 1 5 10 15
253 Phe Asp Glu Asn Arg Asn His Pro Ser Val Ser Trp Leu Lys Met Val

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 11/06/2002
PATENT APPLICATION: US/09/693,205A TIME: 14:46:22

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT
Output Set: N:\CRF4\11062002\I693205A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:20; N Pos. 5

VERIFICATION SUMMARY

DATE: 11/06/2002

PATENT APPLICATION: US/09/693,205A

TIME: 14:46:22

Input Set : A:\2825.1021-003 SUB SEQ LIST.TXT

Output Set: N:\CRF4\11062002\I693205A.raw

L:1423 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (5) SEQUENCE:
L:1428 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (6) SEQUENCE:
L:4228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:4765 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (68) SEQUENCE:
L:4770 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (69) SEQUENCE:
L:4775 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (70) SEQUENCE:
L:4780 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (71) SEQUENCE: